

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

**MORPHOMETRIC:**

Lake: PEARLY LAKE	Lake Area (ha):	57.55
Town: RINDGE	Maximum depth (m):	3.4
County: Cheshire	Mean depth (m):	2.0
River Basin: Connecticut	Volume (m <sup>3</sup> ):	1156000
Latitude: 42°46'30" N	Relative depth:	0.4
Longitude: 72°03'45" W	Shore configuration:	2.16
Elevation (ft): 1006	Areal water load (m/yr):	10.43
Shore length (m): 5800	Flushing rate (yr <sup>-1</sup> ):	5.20
Watershed area (ha): 1036.0	P retention coeff.:	0.55
% watershed ponded: 0.1	Lake type:	natural w/dam

<u>BIOLOGICAL:</u>	8 February 1991	7 August 1990
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 75%	ANABAENA 95%
#2	ASTERIONELLA 20%	
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		2670.0
CHLOROPHYLL-A (µg/L)		22.75
DOM. ZOOPLANKTON (% TOTAL) #1	CILIATE SPP 1 68%	KELICOTTIA 42%
#2	CILIATE SPP 2 15%	KERATELLA 29%
#3	SYNCHAETA 8%	NAUPLIUS LARVA 16%
ROTIFERS/LITER	66	177
MICROCRUSTACEA/LITER	6	72
ZOOPLANKTON ABUNDANCE (#/L)	410	249
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		1.0
BOTTOM DISSOLVED OXYGEN (mg/L)	7.6	6.4
BACTERIA (fecal col., #/100 ml) #1		10
#2		< 10
#3		

**SUMMER THERMAL STRATIFICATION:**

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>) : None  
Anoxic volume (m<sup>3</sup>) : None

**CHEMICAL:**

Lake: PEARLY LAKE  
Town: RINDGE

	8 February 1991		7 August 1990		
DEPTH (m)	1.0	3.0	1.0		2.5
pH (units)	5.1	5.2	5.8		5.7
A.N.C. (Alkalinity)	0.2	0.7	1.2		1.4
NITRATE NITROGEN	0.11	0.09	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.58	0.63	0.76		0.69
TOTAL PHOSPHORUS	0.032	0.001	0.037		0.034
CONDUCTIVITY ( $\mu$ mhos/cm)	57.0	67.9	59.4		60.1
APPARENT COLOR (cpu)	55	80	65		75
MAGNESIUM			0.58		
CALCIUM			2.0		
SODIUM			8.2		
POTASSIUM			1.20		
CHLORIDE	9	12	12		12
SULFATE	6	7	4		5
TN : TP	22	720	21		20
CALCITE SATURATION INDEX			5.2		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1990**

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	5	5	4	14	Eutro.

**COMMENTS:**

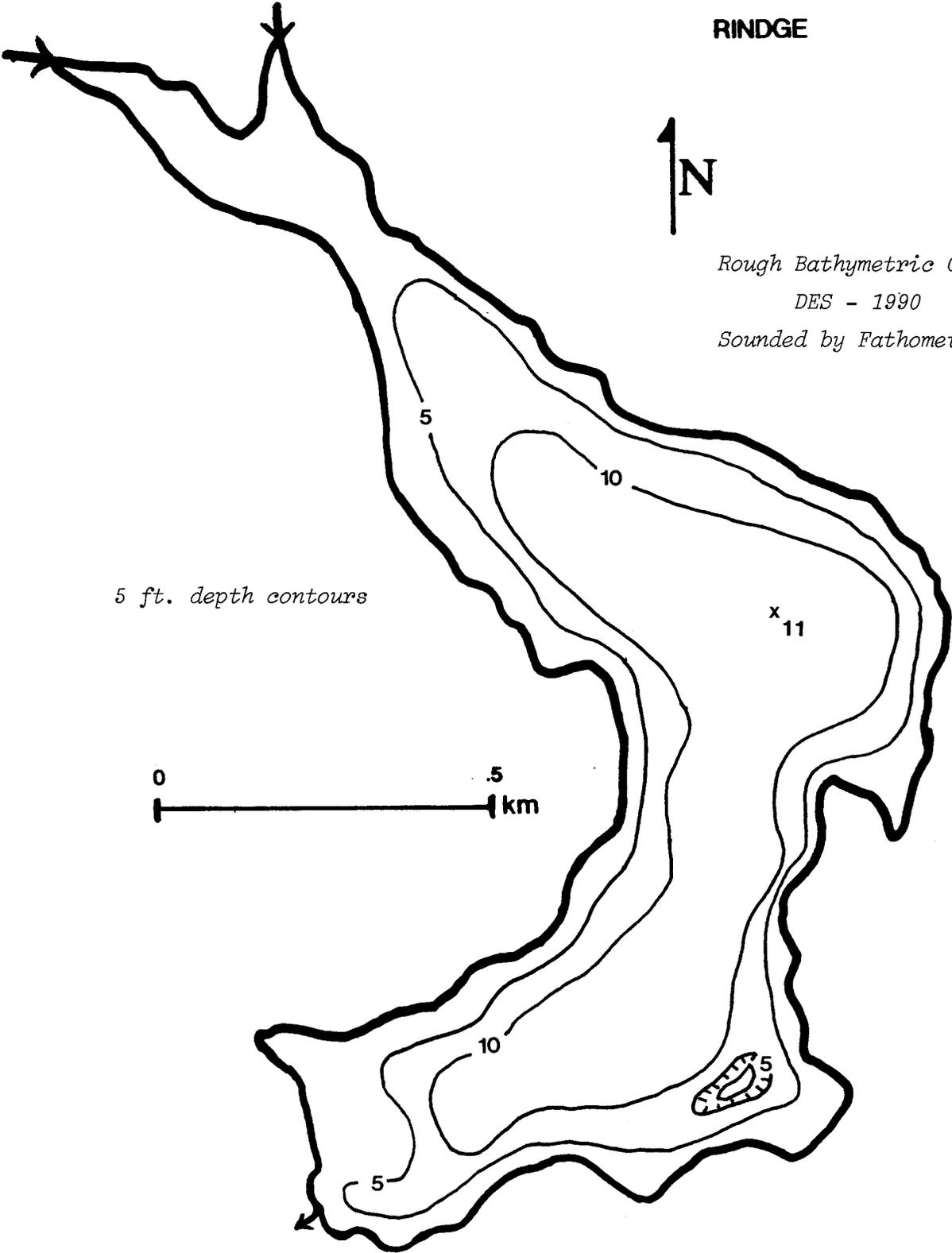
1. Also known as Pearly Pond and Tarbell Pond.
2. Launch site is off Rt. 119; it is dangerous with traffic going past.
3. Anabaena (75%) was the dominant wholewater phytoplankton genera.
4. Pearly Lake was previously surveyed and classified in 1977. The lake was eutrophic in 1977 as well as in 1990, but the macrophyte growth was much greater in 1990.
5. Treated domestic sewage effluent from Franklin Pierce College is discharged into the wetlands at the northern end of the lake.

# PEARLY LAKE

RINDGE



*Rough Bathymetric Chart*  
*DES - 1990*  
*Sounded by Fathometer*



*5 ft. depth contours*

0 ——— .5 km



# PEARLY LAKE

RIDGE



Wetland

Aquatic Plant Distribution Map

